Lab 2
Due: Nov. 2

Objectives

- Get to know more about tone mapping
- Get to know more about color spaces

Getting Started

- Chapter 8 of text
- Read tonemaps/nonlinear.cpp
- Read the paper by Reinhard et al. 2002. Actually, you need to only read Section 3.1 of the paper.
- Read the papers by Fewerda et al. 1996, and Ferwerda et al. 1997. Obtain them from the ACM Digital Library. Both papers are in SIGGRAPH proceedings.

Tasks

- The code tonemaps/nonlinear.cpp is provided in pbrt distribution. Implement in standalone mode and not as a plugin. Pbrt is not required.
- Call your program erik and it should take as input HDR files and output a RGB format.
- Get the datasets from this site. The datasets are in the RGBe format. A description of this format is here and here
- Convert from RGB to YIQ

- For Erik et al’s paper, implement the NonlinearOp tone mapping as described in pp. 400-401.
- Convert back to RGB.
- Other tonemapping operators can also be applied now. Implement the paper by Ferwerda et al. 1996 (or available from ACM Digital Library).
- Call your program ferdi and it should take as input HDR files and output a RGB format.
- Complete Problem 8.7 of text.
- More comparisons are welcome. Make sure you try several different illumination conditions.

What To Submit?
• Include *ferdi.cpp* and *erik.cpp*.
• Include links to any **HDR** files that you used. Include the links in a **README** file.
• Submit all accessory files to compile.
• Send a web page with comparisons with other *tonemapping* operators.